

IN THE CLAIMS:

Please amend claims 1-20 as follows:

1. (Currently amended) A method of restoring a video, the method comprising ~~the steps of:~~

identifying whether a scene on an image sequence is changed;

detecting whether a 3:2 pull-down mode exists in the image sequence;

generating a first interpolated frame by interleaving a field to be interpolated and at least two adjacent fields with each other when there is the 3:2 pull-down mode;

generating a second interpolated frame by de-interlacing the field to be interpolated and ~~the~~ at least two adjacent fields with each other when there is not the 3:2 pull-down mode; and

~~outputting~~ selecting one of the first and second interpolated frames ~~selectively based upon whether a 3:2 pull-down mode was detected.~~

2. (Currently amended) The method of claim 1, wherein ~~the step of~~ identifying whether a scene on an image sequence is changed is carried out by detecting motions between the adjacent fields.

3. (Currently amended) The method of claim 1, wherein the first interpolated frame is ~~outputted~~ selected when the 3:2 pull-down mode exists and the second interpolated frame is ~~outputted~~ selected when the 3:2 pull-down mode does not exist.

4. (Currently amended) The method of claim 1, wherein the field to be interpolated ~~is comprises~~ a current field, and ~~wherein the~~ at least two adjacent fields ~~are comprise~~ a previous field and a future field.

5. (Currently amended) The method of claim 1, wherein the 3:2 pull-down mode is detected by comparing a motion count value between ~~the~~ a previous field and at least one future fields to a predetermined threshold value.

6. (Currently amended) The method of claim 5, wherein the motion count value is ~~attained~~ determined by counting ~~a portion~~ a part, where ~~a~~ motion between the previous field and the at least one future fields is detected, over an entire ~~screen~~ image.

7. (Currently amended) The method of claim 1, ~~the step of~~ wherein detecting whether a 3:2 pull-down mode exists, ~~comprising the steps of~~ comprises:

- identifying whether the current field is equal to ~~the~~ a previous field by analyzing a video input signal and outputting a corresponding identification signal;
- ANDing the identification signal with an output signal of a multiplexer;
- outputting a first control signal for controlling an operation of the multiplexer in accordance with a field of the video input signal;
- ~~recording an ANDing~~ storing the ANDed values in order ~~by~~ upon receiving the first control signal;
- ~~selecting the recorded~~ stored values in order in accordance with the first control signal;
- identifying whether the recorded values ~~is~~ are equal to ~~a~~ recorded values of a previous sequence;
- counting a number of occurrences that the recorded stored values is are equal to ~~that~~ those of the previous sequence;
- comparing the counted ~~value~~ number of occurrences to ~~the~~ a predetermined threshold value; and
- outputting a second control signal ~~by referring~~ according to the comparison result and a scene transition detecting signal.

8. (Currently amended) An apparatus for restoring a video, the apparatus comprising:

- a scene transition detecting unit ~~outputting a scene transition detecting signal by~~ adapted to detecting a motion of image from field data;
- a 3:2 pull-down mode detecting unit adapted to detecting whether a 3:2 pull-down mode exists in the field data and ~~outputting~~ a first control signal on the basis of a ~~corresponding~~ the 3:2 pull-down mode detection result and the scene transition detecting ~~signal~~ result;
- a field interleaver ~~generating~~ adapted to generate a first interpolated frame by interleaving the field data with data from at least two adjacent fields ~~by~~ upon receiving the first control signal when the 3:2 pull-down mode is detected;

a de-interlacer ~~generating~~ adapted to generate a second interpolated frame by de-interlacing the field data with data from at least two adjacent fields in accordance with the first control signal when the 3:2 pull-down mode is not detected; and

a multiplexer selecting ~~to output~~ adapted to select one of the first interpolated frame ~~or~~ and the second interpolated frame in accordance with the first control signal.

9. (Currently amended) The apparatus of claim 8, wherein the multiplexer ~~selects to output~~ is adapted to select the first interpolated frame when the 3:2 pull-down mode is detected and to select the second interpolated frame when the 3:2 pull-down mode is not detected.

10. (Currently amended) The apparatus of claim 8, wherein the field data are outputted from a field data providing unit ~~including~~ comprising a plurality of field memories.

11. (Currently amended) The apparatus of claim 10, wherein ~~a~~ the plurality of the field memories ~~include~~ comprise three field memories connected in series.

12. (Currently amended) The apparatus of claim 8, wherein the field data ~~are~~ comprise image data of a current field, a previous fields, and ~~an~~ future field.

13. (Currently amended) The apparatus of claim 8, wherein the scene transition detecting unit is further adapted to output a scene transition detecting signal ~~is outputted~~ when a scene on an image sequence is changed.

14. (Currently amended) The apparatus of claim 8, wherein the 3:2 pull-down mode detecting unit detects ~~the~~ a 3:2 pull-down mode by comparing a motion count value between ~~the~~ a previous field and at least one future fields to a predetermined threshold value.

15. (Currently amended) The apparatus of claim 14, wherein the motion count value is ~~attained~~ determined by counting ~~a portion~~ part, where a motion between the previous field and the at least one future fields is detected, over an entire ~~screen~~ image.

16. (Currently amended) The apparatus of claim 8, wherein the 3:2 pull-down mode detecting unit ~~including~~ comprises:

a same field identifier adapted to identifying whether ~~the a~~ a current field is equal to ~~the a~~ a previous field by analyzing a video input signal and outputting a corresponding identification signal;

an AND gate adapted to ANDing the identification signal with an output signal of the multiplexer;

a first counter adapted to outputting a second control signal ~~so as to control a selective operation of the multiplexer~~;

field flags ~~storing~~ adapted to store an output value of the AND gate in order by upon receiving the second control signal;

~~the multiplexer-multiplexer~~ adapted to selecting output signals of the field flags in order in accordance with the second control signal and supplying the AND gate with the selected output signals;

a sequence identifying unit adapted to identifying whether a value ~~recorded~~ stored in the field flags is equal to a value ~~recorded~~ stored in the previous image sequence;

a second counter adapted to counting the number of times that the sequence identifying unit identifies the same sequence;

a comparator adapted to comparing ~~compare~~ a count value of the second counter to a predetermined threshold value; and

a field interleaving controller adapted to outputting the first control signal by ~~referring according~~ to a comparison result of the comparator and the scene transition detecting signal result.

17. (Currently amended) A method of restoring a video, the method comprising ~~the steps of~~:

identifying ~~whether a scene~~ transition on an image sequence ~~is changed by~~ receiving consecutive field data and by detecting a ~~quantity of a~~ motion between adjacent fields;

detecting whether a 3:2 pull-down mode exists in the field data and generating a first interpolated frame by interleaving the field data with data from at least two adjacent fields on the basis of ~~a corresponding the 3:2 pull-down mode~~ detection result and ~~a corresponding the scene transition~~ result;

generating a second interpolated frame by de-interlacing the field data with data from at least two adjacent fields if at least one of a sequence outputted by consecutively detecting the 3:2 pull-down mode for each field is zero, the field to be interpolated is interleaved

with a field having no relation ~~with each other reciprocally, or and~~ none of previously set-up output sequences ~~is are~~ detected; and  
outputting selecting one of the first and second interpolated frames ~~selectively~~.

18. (Currently amended) The method of claim 17, wherein the field data ~~are~~ comprise image data of a current field, a previous fields, and a future field.

19. (Currently amended) The method of claim 17, ~~the step of wherein~~ identifying ~~whether a scene transition on an image sequence is changed, comprising the steps of~~ comprises:

counting a part, where ~~a~~ motion between ~~the a~~ current field and at least one previous fields is detected, over an entire ~~screen~~ image;

counting a part, where ~~a~~ motion between the current and a future fields is detected, over the entire ~~screen~~ image; and

identifying whether the scene is changed by comparing the motion count values to each other.

20. (Currently amended) The method of claim 17, wherein the previously set-up output sequences includes comprise the five-digit combinations "10000", "01000", "00100", "00010", and "00001".